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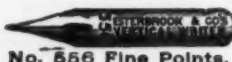
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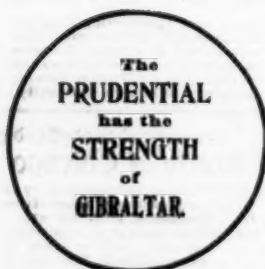
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Value of Psychology.*

By James Gibson Hume, M. A., Ph.D., Professor University of Toronto.

We may consider the importance of psychology to the teacher in (I.) the discovery of the interrelations of different lines of study; (II.) in organizing and systematizing his own mental life; (III.) in guiding the process of bringing together the subject of study and the student; that is, in helping the teacher as director, student, and educator.

I. THE TEACHER AS DIRECTOR.

The teacher must know something about the interrelations of different studies. It is his work to arrange the time-table and program of work, and frequently to teach several of the subjects. Even where he is restricted to the teaching of some specialty, he should know how his special subject is related to the others pursued by the pupils he is teaching. Does psychology occupy such a place as to make it specially valuable in seeing the interrelations of various studies? Let us examine.

When it divides studies into three great classes:

The natural sciences, the mental sciences, and the philosophical enquiries.

He claims that psychology is complementary to the natural sciences, assisting in the treatment of problems otherwise inadequately solved; that it is the foundation of the mental sciences, as dealing with the simple data and underlying principles of these, and, lastly, it is the natural preparation for and introduction to the philosophical enquiries.

That psychology is complementary to the natural sciences may be illustrated by a number of commonplace and well-known instances, as the case of the "personal equation" in astronomy, where it becomes necessary to take account of the apperception and reaction time of the observer who is using the transit instrument or serious mistakes will arise in the calculated results. Other familiar examples illustrate that the abstracted, mathematical, and physical properties of the observed phenomena do not alone fully explain the appearances, e. g., the larger apparent size of the moon when near the horizon; the apparent motion of the sun.

Many simple, but striking examples may be taken from what are termed optical illusions, as when lines are drawn from a point midway between two parallel lines, cutting the parallel lines of various angles, cause the parallel lines to seem to curve outward, while lines drawn from points outside of the parallel lines to an imaginary line drawn midway between the parallel lines make the parallel lines appear to curve inward, etc. The cases of color contrasts are also simple exemplifications of this psychical component, as for instance, a gray strip on a white and black background will appear whiter on the black background, darker on the white background. Or a strip of gray placed on a background of red, and the same gray placed on a background of blue will appear not as gray, but as shades of pink and yellow respectively, etc., etc. The British Scientific Association places psychology among the natural sciences in its meetings, making a sub-section of physiology. The American Scientific Association places it under the mental sciences, making it a sub-section of anthropology. It belongs to both places. Only a slight examination is required to see that, for the mental sciences, psychology, is just as fundamental as mathematics is for the natural sciences. Note any recent advances in the mental sciences and you will detect it resting upon insight into and application of some psychological principle. Look at the new methods of teaching grammar, not before, but through the language to which it belongs. Look at the complete revolution in method in the manner of teaching and using rules. Once first, now last in the process. Once announced and memorized now discovered, constructed, and applied by the pupil himself. Look at the improvement in history as in such books as Green's "Short History of the English People," going beneath the events to the life of the people, their aims and passions, and the analysis of the character and motives of the chief actors.

Look at the improvements in political economy of late years by the introduction of psychological and ethical considerations and the historical method. What may we expect in law when some of the time spent on procedure in criminal law is turned to the study of the criminal himself?

As to the value of psychology as an introduction to the philosophical enquiries an objection might be raised that all of these, philosophy, Æsthetics, and theology, claiming to deal with the true and beautiful and good as ideals, are ultimately based on metaphysics, and the less we have to do with metaphysics the better. Modern philosophy, however, should not be confounded with the much misunderstood and much maligned mediæval disputations any more than modern chemistry with alchemy, modern astronomy

*An address delivered before the Ontario Educational Association, Toronto, Canada, April 21th, 1897.

with astrology, or modern biology and medical science with the views of Theophrastus Bombastus Paracelsus. And even the superseded past should be remembered with some gratitude and respect, as the progenitor of the present: "Honor Thy Father and Thy Mother." Those who cry out most loudly against metaphysics, past or present, are, in almost every case, the unconscious victims of the shallowest and most erroneous forms of metaphysical speculation. It is philosophical speculation carefully conducted which has done most to expose false principles and to amend crude and erroneous standpoints. If we mean by philosophy, reflection on the meaning of experience, reconsideration of the significance of the results gained in scientific investigations, then instead of saying, No one should have anything to do with philosophy, we should rather say, Every one should have something to do with philosophy. Every one who reflects on the meaning of life and its experiences, who desires to pass beyond the mere appearances to discover their worth and importance for life-conduct and destiny is to that extent a philosopher. It is necessary to specialize in science to gain results. But every scientist in every field has not only the privilege, but also the duty to give more than mere details connected with his specialty. He should endeavor to give hints concerning their ultimate meaning, as this is revealed to him. At any rate the teacher cannot be a mere pedant. He must be a man, as well as a scholar, and he will give a respectful hearing to such investigations, and cultivate an intelligent interest in them. For this, psychology is a useful introduction and preparation.

May we not conclude that psychology stands in such a central position and in such intimate connection with every branch of enquiry that it is peculiarly fitted to assist in their co-ordination?

II. THE TEACHER AS STUDENT.

It is scarcely necessary to say anything about the importance of continual study to the teacher. He must keep alive his interest in what he is teaching by continually enriching his mind by new enquiries and acquisitions. Our studies should be organized. Each new discovery should be made to throw light upon everything we already know. By reflectively, actively organizing in this way, the mind gains strength and insight, keeps alive its old interests and creates new ones. Thus study is made delightful and fruitful. Thought is trained to become consecutive and successful. The teacher himself should be of this type, and he should have psychological insight to enable him to guide his pupil to attain to this standpoint.

III. THE TEACHER AS EDUCATOR.

What the teacher acquires and gains in his own self-culture is as teacher a means; the end sought by him is the training of pupils. He must stimulate and awaken interest. He desires to make the subject of study a means to transform the whole character of the subject who studies. In order to accomplish this, the teacher must keep in mind the logical order of correct presentation of the subject of study; the stage of development and powers of the pupil, and the laws and processes of his mental growth, that he may gain the result, the developed pupil. In order of presentation he

must proceed from the simpler to the more complex, and the simpler is not the most abstract, but the most concrete; for he must also proceed from the known to the less known. He must arrange the presentation so that a puzzle or problem is proposed and suggested to the pupil and his curiosity aroused to endeavor to solve it. The teacher must sympathetically place himself at the pupil's standpoint, if he desires the pupil to advance to his standpoint. In order to do this, he should endeavor to recall the stages and processes whereby he as pupil proceeded when he was at the stage now occupied by his pupil. The ability to do this probably accounts for the fact that in many cases an English-speaking teacher will be more successful in teaching pupils the rudiments of a foreign language than a native. It may also account for the fact that so large a proportion of inexperienced teachers succeed as well as they do.

The most important service of psychology to the teacher is that it leads him to consciously and systematically study his pupils, and thus awakens or intensifies his interest in them. Surely if a doctor becomes interested in the discovery of new diseases and new remedies for them a teacher should be interested in each new pupil, and in each experiment for that pupil's improvement. An individualized interest makes a teacher as careful of his pupils as a fond mother is of her children. He is on the alert to see that the physical well-being of the child is not neglected. Has the child bad habits of sitting, or standing, or walking, or breathing? He discovers the cause, and endeavors to correct, kindly, wisely, and at once. Proper physical habits conduce to health and to morality. Is the child untidy or unmannerly? The teacher leads him by example and considerate advice. The child is respected and is taught to respect himself. Is the child dull and stupid? The teacher endeavors to find out if ill-health or poor food or ill-usage at home is the cause; he encourages the child to play, and soon it will turn out that the teacher is found visiting the home and endeavoring to arouse parental solicitude, and gain parental co-operation. This teacher will not neglect lighting, heating, or ventilation; he will be careful not to unduly fatigue his pupils and will be found supervising their plays without officious interference. He will even be found guarding the outhouses and walls from the desecration of perverted vandalism. He will be the guide, counsellor, and confidential friend of the adolescent pupils, guarding them with solicitude and watchfulness in this critical period of unstable equilibrium, when the nature is plastic and responsive to the promptings of the highest ideals, and when, on the other hand, the danger is so great of the beginnings of perverted habits and criminal tendencies arising if the pupils are neglected and allowed simply to "grow up;" like Topsy or Ruth Bonnython.

Let us now recall some examples of assistance from psychology in arrangement of time-table, and presentation of the subject of study. The thoughtful teacher will distinguish between the more severely logical and mathematical studies on the one hand and the more historical, discursive, and literary on the other. For the former more concentrated attention is required, and therefore these should come in the early part of the program. When it comes to reviewing it will turn

out that the second class of studies require more repetition and reviewing. Pupils should, however, be taught to recall directly what they have previously read and studied, without using the book to assist them. The memory should be trained in self-reliance. Perhaps it is in connection with memory that most people would think of the assistance of psychology to the student.

Kant says memory may be mechanical, ingenious, or judicious. I think it must be confessed that the earliest attempts to apply psychology in assisting and directing memory training were chiefly of the "ingenious" kind, discovering curious and arbitrary connections in accordance with the law of the association of ideas through similarity, contrast, and contiguity. Many text-books seem to be constructed with the view of employing the mechanical memory. It is supposed that the briefer the summary, the easier it will be to learn and remember. The student is supposed to con over the tables and learn them by repetition.

A deeper insight will indicate more "judicious" methods. The great rule for memory is, "Take care the knowing, and the recollecting will take care of itself." Let the subject be taught and studied logically, systematically, thoroughly, and woven as widely as possible into the warp and woof of the mental interests and thoughts of the pupil. In this way the time spent on one subject is not taken from all others, but is contributing to all others. It is a popular fallacy to suppose that all the time spent on one subject is subtracted from all others. The trained and experienced teacher educates all the powers of his pupils, and utilizes every subject for this purpose. He keeps clearly before his view the results to be attained, carefully selects the most efficient means, and with solicitude and interest observes the process. He desires the full and harmonious development of all the powers and capabilities of the pupil, physical, mental, social, moral, and religious. He is aware that he is co-operating with the pupil in the formation of character. Is there anything of higher value? This thought makes the teacher reverent; it impresses him with a sense of his responsibility; it also enables him to respect his profession and see in it one of the noblest efforts of human endeavor. Although our public schools are sometimes accused of giving a merely intellectual drill, no teacher worthy of the name is limiting his efforts to this. He is bending every energy to attain discipline and training of character by means of the intellectual and disciplinary; he strives to inculcate ideals and form habits of faithfulness, honesty, uprightness, industry, truthfulness, obedience, reverence.

Mark, he is not teaching *definitions* of these. That would be a merely intellectual drill. He is molding the character into these moral habits. It is just because the public schools are so efficient that Sunday-school and home continually desire to relegate more and more to the public school.

The careful and reverent study of the child is destined to react upon home, Sunday-school, and church. If child nature had been studied, should we find the text "Except ye become as little children, ye cannot enter the kingdom of God" so continually misinterpreted to mean that there should be passive admission of truth without questioning or enquiry? Is that the

way the child learns or acts? Should not our religious life exhibit the same fearless confidence in asking questions, and at once put into practice the answers as the active child does? It would be a wide field to follow the pernicious effects of unpsychological methods of parents and teachers in the suppressing of questions and stifling the religious cravings of children. We have too often "offended these little ones." Sooner or later, truer psychological methods, as exemplified in the kindergarten will permeate the whole school system and overflow into the Sunday-school, the church, and the home. Let me add to the teacher interested in the study of psychology and its applications to his profession: Remember that the science of psychology, with all its intrinsic importance and immediate usefulness, is simply the portal and propaedeutic to the higher reflective problems of the ultimate significance of life, and art, and moral conduct, and religious aspiration. As in your teaching you desire the intellectual to be the means to lift up the pupil to higher ground, prepare him for the reception of the highest truths. So let these lofty themes be in your own life constant topics of interest, perennial sources of new insight, continual fountains of noblest inspiration.

James Gibson Hume.

Régar ding Nature Study.

By Celia F. Osgood, Colorado.

In the numerous demands of the new education upon teachers. I think, to many of us, nothing has seemed more formidable than that of nature study. It is perhaps not unnatural that our first feeling should be one of hopeless bewilderment upon finding, unexpected by us, a knowledge of botany equal to Gray's, of zoology approaching Cuvier's, of ornithology rivaling Audubon's, of physiology that would do credit to the medical college graduate,—in short, a grasp of so many branches that we are prone to think despairingly, "To be a good teacher one should have the knowledge of the Omniscient."

But in the very impossibility of meeting this requirement is to be found our consolation. Anxiety over the unattainable being worse than useless, let us exert our energies upon the possible. Nobody is going to ask of us what cannot be done. With this comforting reflection, we may proceed with calmness to learn and to teach this subject according to our own best powers.

First, what is the purpose of nature study? The great purpose is the great purpose of all education—the development of moral character. Through all the influences brought to bear upon our children, in all the means of guidance from infancy to maturity, in every study introduced into our schools, by every method of discipline known to the race, the one unchangeable purpose is to bring out the good. The development of the intellect is only useful as it contributes to the good in character, the cultivation of sensibility is desirable only under the influence of the good, the will is rational only as it works in harmony with the good.

So in our nature lessons, as in all, their use to this

one great purpose must always be foremost in our minds.

Among the minor purposes in education in general, none is more prominent to-day than that of attaining a many-sided interest. We do not find people whose minds are open in this direction descending to unworthy methods of occupying their time. Just as John Fiske says of another subject "The true way of ensuring the destruction of superstition is to sow the seeds of scientific truth," so we may say of this matter, the true way to prevent pettiness of aims and of thought is to supply broad and noble channels for the growing mind.

The child is very near to nature's heart. He is gifted usually with observation. If all his spontaneous inquiries into the phenomena by which he is surrounded are slightly and indifferently treated, his observing and reasoning faculties will be defrauded of their natural right to grow and wax strong with his years.

We teachers are treated to much advice upon the necessity of original investigation on the pupil's part, of having a specimen of the subject under consideration in the hand of every child, of the uselessness of mere book knowledge about the living world around us, of the importance of seeing and proving the points given. Excellent advice it is, too, but with our schools as full as they are now, and with our time programmed to the fraction of a minute, and with our facilities for seeing and investigating just what they are and no greater, it is advice that must be taken with ... fictions.

We must have something practical to do, as well as excellent theoretical work suggested to us. We can have roots and seeds and leaves, we can have small specimens of minerals, we can have grasshoppers and butterflies, perhaps squirrels and canaries sometimes in the school-room; but the impossibility of studying the banyan tree, Pike's Peak, or the work of the coral insect from object lessons should not debar our classes from learning of these things. Indeed, children have been found quite as interested in reading about the beaver and the porcupine, quite as eager to gather and contribute information on those animals as in studying cats and chickens.

In remembering how valuable is first hand acquisition of knowledge, let us not forget the usefulness of second-hand.

With little children, it is unwise to attempt to teach many details of natural history. It seems better to begin with the simplest facts, always leading them to discover as many as possible themselves, but do not be afraid of some downright telling of things they don't know, and can't find out. Develop and evolve, certainly,—the more the better—but you can't evolve what doesn't exist, nor develop knowledge for which there is no basis in the infant mind.

No doubt, at the start, there will be children who "know all about it," and wonder why they are taught things so familiar, but there will always be those who know nothing about it, and we make a mistake when we take much for granted in the previous education of a six-year-old. We must see that the children have some ideas upon which to base their reasoning, and

then will come in the most skilful and most noble part of our work, leading them to interpret their facts, to classify their knowledge, to grow independent in thought, to develop strength of character through the exercise of the reasoning power.

One of the foremost objects of nature study in the public schools is the inculcation of the gentler feeling towards the lower orders of life and an appreciation of the cruelty of wanton slaughter. To this end we should spare no pains in the way we present the matter of killing and mounting specimens for study. This should not be begun at all below the third grade, by which time, our pupils should have too active a tenderness in their regard for animals, to be misled as to the spirit of the work.

In order to correlate reading from nature study, we must take our every day science lesson as a basis for the simple sentences of the primary grades, and consequently must make use of the children's original sentences as well as become ourselves expert in the composition of monosyllabic literature.

As we proceed, all the new and beautiful books and periodicals bearing upon this work can be brought into service, since the era of the monotonous grind upon one reader a year has happily passed. The correlation of language work should begin at nine o'clock in the morning and cease not until the school-house dust is shaken off our shoes at night. But this is another story and a long one.

The Study of Local Topography:

By Means of a Plan.

As a means of interesting children in local topography, direction and the points of the compass, a map of the town or district drawn on an enlarged scale, mounted and varnished, will prove a valuable aid. With the aid of crayons, ponds and brooks can be colored blue, railways black, roads brown, high ground light green, fields, parks, and open spaces darker green, prominent buildings yellow. The school should be marked as a starting point.

The plan should be drawn upon card or bristol board or should be pasted to this afterward and then it should be varnished as a protection from the dust. A carefully drawn plan of the school building should hang beside the map of the district, to aid the children in the realization of the relations between the actual boundaries and their artificial representations. The map should have a carefully marked scale large enough to be seen without difficulty.

A thorough acquaintance with the meaning and structure of maps is very necessary to the student of geography. Practice in this work must be continued until the fundamental conceptions are mastered. Constant repetition is the only way of testing and ensuring progress, but this may be made full of interest by constantly giving new aspects and presentations of the familiar facts.

The following questions may suggest to teachers methods for rendering this local map study interesting.

I.

Look at this picture, what does it show you? What does a plan always show? What other plan have you besides that of the school? What does a plan of the neighborhood show that a plan of the school cannot? Of what use would each be to a builder? To a stranger in the town? Why do we color each? How does a plan of the school show its relative shape? Its relative size? The positions of objects? The distance and direction from other schools and places near? Draw a plan of the school-room.

Which direction does your front door face? Your back door? How do you tell? Into which room does the sun shine in the morning? At noon? In the afternoon? Never? Name some buildings, streets, and parks. Find them on this plan. What color stands for streets? Brooks? Electric roads? Railways? Ponds? Mills? Fields?

II.

Which is the highest ground shown on the plan? How can you tell? How can you find the way the brooks flow? Point out on this plan of the neighborhood how the brooks flow, whether north, south, east, or west. Are they straight or winding? Why? Where does the water come from? How does it get to the clouds? How does rain make channels? Where do you see new channels on a wet day? What becomes of all the rain afterwards? Why is it not always raining? Where is there no rain? Why not?

III.

What is the name of your town, school, street? Why is each so-called? How far is it from your house to the station? How long would it take to walk this distance? How fast would you go? Point out the places on the plan of the district to which it would take longest to walk. Could you go in a straight line? Why not? How would a bird go? Which would be there first, you or the bird? Why? Point out the straightest streets or roads marked on the plan. Name the largest spaces colored green or blue.

When we watch the chimney, what does the smoke tell us about the direction of the wind? What is smoke? Air? Wind? Vapor? Steam? How do we name the direction of the wind? What does it do to hats, umbrellas, leaves? When does the chimney cast a shadow? Why?

What places do you see if you look through each window? Where is the highest point or building in the town? What is its height? What would you see from there? Name the roads about your neighborhood most inconvenient for a bicycle? For an electric car? Tell why. In which direction do they run? Point them out upon the plan.

In what ways can you go from place to place in your town? Where can you start from? What do you mean by traveling? In what ways can people travel? Why do people travel?

At what times of the day are the streets most crowded? Tell why. What are places where work is done in the town? Which streets are the busiest? When? Why?

What is the scale shown upon this plan? Of what help is it? How far is it across the town from east to west? From north to south? From the school to your house? From the school to the boundary line. What is the boundary line? Point to one on the plan.

Where do the brooks shown on the plan come from? Name any places they flow past in their course. Where do they go to? Where are they widest? When deepest? When driest? Why? What is the largest stream near your home? Name some river that you have crossed. How did you cross it?

V.

How do you reach the railway station from your house? Name the streets crossed. Where on the plan is the station? Point out the post-office, the school, the churches, the bank.

How are roads shown on the plan? What are they for? What are they made of? Who made them? How are they mended? What wears the roads? Why does no grass grow on them? Which are the best roads in your town? The worst? The longest? The busiest? The prettiest?

Show what parts of the town have most houses and children. Why are they so crowded there? Why do we have banks, houses, streets, schools, factories? Before a house or church is built, what does the builder make? What is first done to the ground? Who are the first workmen to begin the building? What tools do they use?

VI.

How far can you step? How many steps across the street? How many across the school yard? How many hops across?

How many steps to your home? How tall are you? How can you tell? How high is the table? This door? This window?

What is the sky? How far off is it? What do you see there in the day-time? At night? What shapes are the clouds? Of what use are they? What is the shape of the moon?

How could you measure your school-room with a rule or tape? Without? About how long is the school-room? How wide? Draw the shape of the school-room. Mark the length and breadth. Show the door by which you come in. Mark where the blackboard stands.

Show on the plan the places where you like to spend a holiday? Show where you can find wild flowers. Where you can catch fish, have a swim, or skate. Where you can see running water, a pond, or a lake. Point out and name the direction you take to reach these places. Show how you would go from these places to your home.

VII.

Point to some road on the plan. If you kept walking along this road, where would you come to? What is the nearest large town to your own? How far is it? In which direction? How would you get there by road?

How far to the seaside from your home? What did you gather at the seashore when you were there? What did you do with the sand? What is sand? Gravel? Mud? Where can you find each? What are rocks? Name uses and kinds of rock used in houses, streets, fireplaces. What is a quarry? A mine?

What is the road like on a wet day? What becomes of the water? Why does it flow into the gutter? How could you make a lake in the street? Which roads shown on the plan are muddiest on a wet day?

VIII.

How many people live in your town? How do you find this out? Name the street, the town, the county, the state, the country in which you live. Name some maps used in the school? Why is the top of a map marked north? How are maps colored? Why are they colored?

How long is a day? How is it measured? What do you mean by light, dark, midnight, noon, sun-rise, sun-set? How does summer differ from winter? Which do you prefer? Why? What kinds of light can we use? Why is daylight the best? During what part of the year do we use least gaslight? When do we use most? How many seasons are there in a year? What season is it now? What do you notice about the birds, plants, heat, cold, kinds of clothing worn, the games played this present season?

IX.

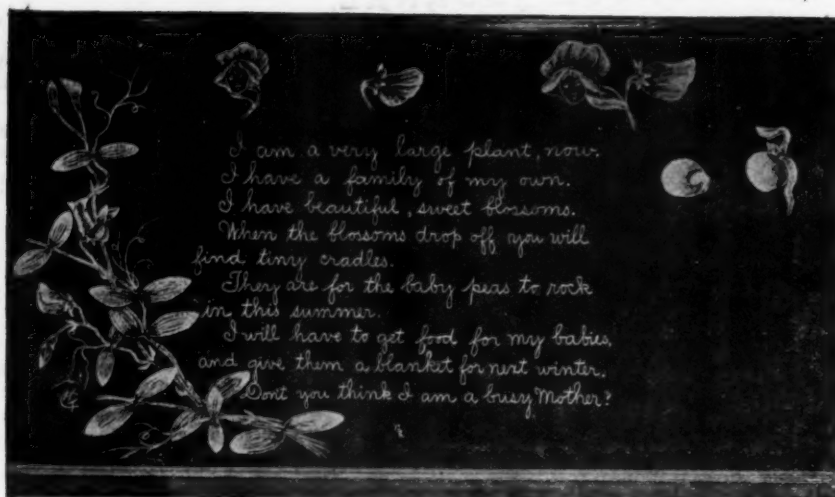
What did you see along the road as you came to school this morning? Which was the shady side of the street? Which is the shady side in the afternoon?

Which are the largest mills or workshops shown on the plan? Point out where your father works. Show the direction by which he goes and comes from his work. How long does it take to walk that distance?

Point out the junction of two roads on this plan. Show where a road crosses a brook or river. Point out the railway and railway station. What are they for? To what towns near do these railways run? In what direction? What is the distance? What is the fare?

Why are the roofs of our houses not made flat like those of other countries? Why are drains, gutters, and water pipes placed near the school? How is the rain carried off? Where does it go? When do we have most rain? Why? Of what use is rain to the earth and to man? What happens when there is no rain?

A little girl who had been running wild in the fields all summer came home in the fall, and in lieu of something more valuable, to her childish ideas, filled her hands with leaves from her mother's India rubber plant. After she had done the same thing for a second time effectual means were taken to prevent further work in a botanical line. Amid her cries, the little maiden wailed, "But what can I do, mamma? I ain't dot nuffin to pick."



(Black-board Drawing made by Herbert C. Tooker. To accompany language lesson on this page.)

Language Lesson Based on Nature Study.

By Adella Jackson, Second Grade Critic, Michigan State Normal School.

(Illustrative Lesson before Senior Class. Reported by Mary Thompson.)
PLAN.

- Awakening of thought.
- Thought growth.
- Thought evolution.
- Clear expression.

The children entered the room, were seated, and the teacher asked, "Do you remember the story we had one day about Robin Redbreast and what he was doing for us?" The pupils said they did, and that he sang his sweetest songs for us and called the buds and flowers to wake up, for they had been sleeping all winter.

Then the teacher asked, "What was one of the seeds that woke up so early?" Answer—"The pea." Then a pupil read the following story.

STORY NO. I.

I am a baby pea plant.

I am very sleepy, but I hear Robin Redbreast calling and the raindrops tapping.

I guess it is time to get up.

I am very warm and I think I will throw off my blanket.

Then the teacher said, "I would like the story read that tells about the pea holding its head up to the sunlight." Pupil read

STORY NO. II.

Here I am again!

I have been growing very fast.

I am eating the food my mother put up for me.

I am holding my head to the bright sun.

Before going on to the third story, the teacher brought to the minds of the children the time and circumstances when the next stage of growth was studied by asking, "Did we look at the plant next day to see how it had grown?" The answer was, "No, we waited quite a while." A pupil was then asked to read

STORY NO. III.

I have eaten nearly all the food my mother put up for me.

I shall have to get food for myself now.

I will send down my roots into the warm, soft earth.

My roots help me to get food, and they help me to stand up.

I am stretching my arms up to catch the sunlight and the raindrops.

They help me to grow.

Again the teacher recalled the time when the fourth stage of growth was studied, and said, "When we looked at the plant we were quite surprised. Do you remember why?" A pupil answered, "Because it was so large." Then was read.

STORY NO. IV.

The raindrops and the sunlight have been helping me to

become a large plant.

I have been getting plenty of food from the soft, warm earth.

Do you see the little bud on the top of my stem?

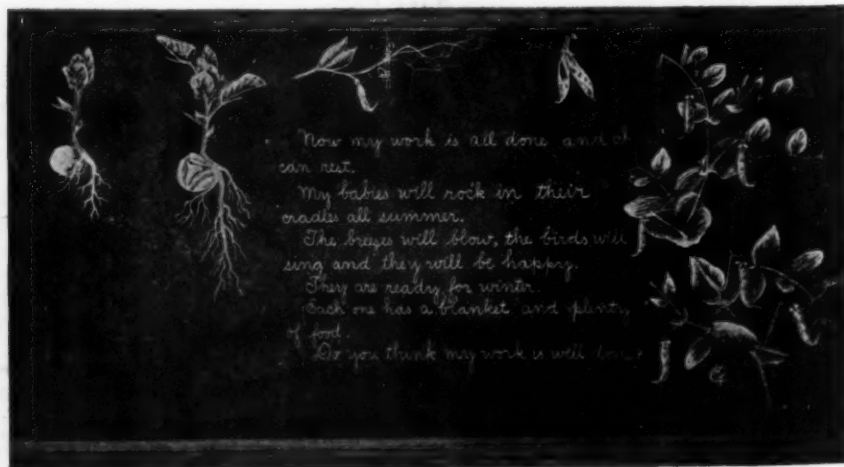
Soon it will open and then you will see more leaves.

I need the leaves to help me to breathe.

The teacher asked, "Then, when the little seed is put in the ground what does it want to do?" and she received the answer, "To grow." She asked, "Is it glad when it grows to be a large plant?" Answer, "Yes." "In what way does it show that it is glad?" was asked, and one of the answers was, "It holds its leaves up to the sunlight." "If we should not give it water how would it feel?" Answer, "It would feel sorry and be wilted."

EXAMINING THE VINE.

A large fresh pea-vine was then introduced into the class much to the surprise and delight of the children. The teacher asked, "How did this get to be such a large plant?" Answers, "It grew"—"It had plenty of sunlight and rain." Then the tendrils were observed, but the pupils did not know them by that name and gave other names, as "clingers," "fingers," etc. They were told by the teacher that they were called "tendrils." Then a dish of young pea plants was shown to the class, and they were asked if they could see any tendrils growing on them. They said they could. "Why does this plant need tendrils?" "To help hold it up"—"In some plants the roots help to hold it up." "Why don't these roots hold this plant up?" "Because the stem is not strong." "When do the tendrils begin to grow?" "When the plant needs them to hold it up." "What do we call all plants



(Black-board Drawing made by Herbert C. Tooker. To accompany language lesson on this page.)

that cannot stand up?" "A vine." Returning to the large plant, the teacher asked, "Can you tell me what has helped this plant to grow?" Some of the answers were—"The sunlight," "the rain-drops"—and "the roots." Then they were questioned just how each of these helped the plant to grow. One child said the tendrils helped it also.

Teacher. "Is this all of the plant?"

Pupil. "No; there will be blossoms."

Teacher. "Is this all of the plant?"

Pupil. "Pea blossoms."

PUPILS HANDLE THE BLOSSOM.

Here the teacher brought in some fresh sweet pea blossoms, and gave each pupil a cluster, and asked how they should handle them. Answers, "Carefully," "As though they were alive." The children were asked what they thought about them. One child said he thought they were pretty, and the teacher asked, "How pretty?" Answer, "Very pretty." Another said, "I would say they were beautiful." She then asked what else they could say about them, and one child said, "They are sweet."

Teacher. "What are flowers for?"

Answers. "To make our hands look beautiful." "To give us fruit as the cherry tree does." "To give us seed."

Teacher. "Do we always leave them on the plant?"

Answer. "No, we pick them and take them into the house."

Teacher. "What did Miss Leslie do with them?" (They had been reading about Miss Leslie and her mission.)

Answer. "She gave them to other people to make them happy."

Teacher. "What do we call that part of the plant which is so beautiful?"

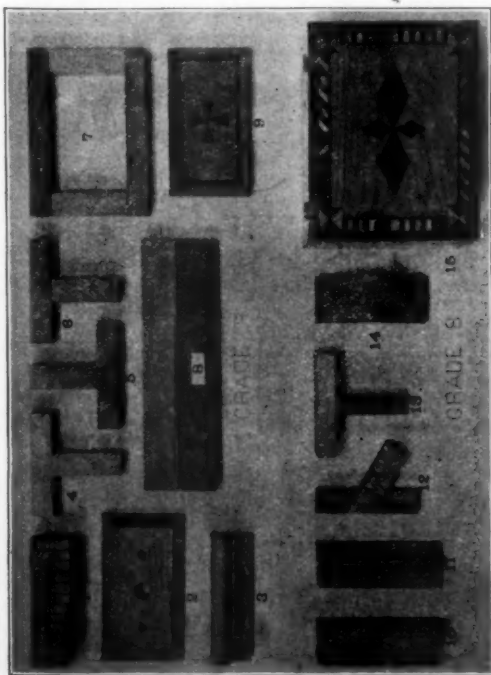
Answer. "Corolla."

Teacher. "What is the name of each part of the corolla?"

Answer. "Petals."

Teacher. "What do we call that part which holds the corolla?"

The exposition of the American institute for 1897 will be held in Madison Square Garden for six weeks, beginning September 20. The institute is now in its seventieth year, and its rise and progress have been coincident with the development of the modern city of New York. It has been officially sanctioned and supported by the state of New York. The legislature makes an annual appropriation to cover the expense of the medals and other marks of merit issued by the institute.



Manual Training—Exercises, Course I. Washington, D.C. (See page 151)

The Hour for Things.

THIRD AND FOURTH GRADES.

By H. C. Robinson, West Virginia.

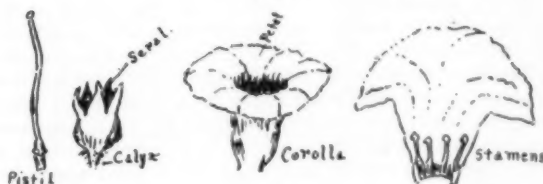
During my last term of school I had an hour on Tuesday of each week set apart to talk with my pupils on familiar objects. We called this the hour for things.

The first object that we took up for study was the morning-glory. I drew the different parts, as given below, on the blackboard and had the pupils draw from the board on their tablets. I then spent a few minutes in spelling and pronouncing the words that I had used. This was done with each succeeding lesson. The children enjoyed the exercises very much; and besides acquired knowledge that will be useful to them in their higher education.

The teacher may make four lessons out of what is given above or he may make fewer or more.

THE MORNING-GLORY.

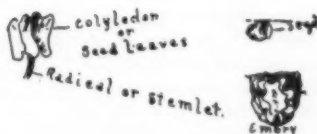
Lesson I.



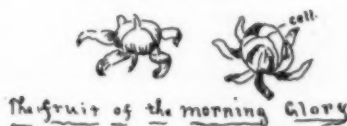
Lesson II



Lesson III.



Lesson IV.



1. Color.
2. Time of blooming.
3. Frequency.

4. Parts:
 - 1. Non-essential { 1. Corolla.
2. Calyx.
 - 2. Essential { 1. Pistil { 1. Stigma.
2. Ovary.
3. Style.
2. Stamens { 1. Anther.
2. Pollen.
3. Filament.

*The teacher can go from the study of the morning-glory to the study of flowers in general. He can so interest the children that they will bring other flowers to the school-room and be anxious to talk about them.

He should note carefully the parts of the morning-glory as to number, and then compare other flowers with this. In this way he can lead the pupils to note that some flowers have no calyx, some no corolla, some one number of stamens, some another, etc.

A Trip to the North Cape.

By Mary Proctor, New York.

Far away to the north is that beautiful country where, during a long summer of continuous daylight, the sun never sets, the stars pale in its luster, and the moon sheds no light. But the midnight sun is the great phenomenon that attracts the traveler, and to witness its glories, many an expedition is planned to visit the North Cape, by those who wish to see the glorious sight from its summit. Last summer I joined such an expedition, but as we arrived late in the season, the S. S. Ohio, had to sail up 132 miles north of the North Cape, into the Arctic ocean, to latitude 73° north. The night was as bright as an average dull cloudy day at noon, the date August 1st, and the thermometer registered 44°. The sky, unfortunately was overcast with clouds, and although the sun was shining behind them, the only sign we had to prove this, was a very vivid, red gleam of light, along the line of the horizon. Through breaks in the clouds, faint gleams of rosy light, brightened the dull gray expanse, but the sun itself remained hidden.

Exactly at midnight three shrill blasts were blown on the steamer's whistle, two rockets were sent hissing up into the sky, and broke in a shower of bright color against the gray background. Then the clang of the signal bell to the engineer below was heard, the screw began to revolve at full speed ahead, and the good steamer started on her long homeward trip, her quest to the far North a failure through no fault of hers. For half an hour longer, the disappointed sight-seers stood watching in the hope that the sun would break through the clouds, and its course could be traced by the changing glow of colors in places where the clouds were thin, but not a glimpse of the midnight sun was to be seen. The following description of the midnight sun by one who was more fortunate than we were, will show what a glorious sight we missed.

THE MIDNIGHT SUN.

"The brilliancy of the sun, as the hour of midnight approaches, varies in intensity of color, changing from a roseate hue, when everything is tinged with its light, to a whitish appearance, when the sun seems veiled in mist. As the hour of midnight approaches, the sun gradually changes into more brilliant hues, as it dips towards the lowest point of its course. The motion is very slow, and for awhile it apparently follows the line of the horizon, during which time there seems to be a pause as when the sun, reaches noon. This is midnight. In a few moments the glow of sunset mingles with that of sunrise, and soon the light gradually becomes more brilliant, announcing the new day, and before an hour has elapsed the sun is so dazzling one cannot look at it."

LANDING PLACE AT THE NORTH CAPE.

Next morning the ship arrived at the North Cape, and we saw the mighty cliff before us in all its grandeur, distinctly outlined against a clear, blue sky. Sea gulls were flying around, and some scraggy-looking sheep were contentedly munching the few blades of grass to be found in this bleak region. From the ship to the landing place, the passengers made the trip in small boats, and as our boat tossed about like a cockle-shell on the waves, we were not sorry when we finally arrived at the landing place, which consisted of some planks resting on rocks, and a hand-rail. We had all decided to climb the North Cape, so we were soon on our way, plodding through the debris of wet soil and rolling rocks, gathering buttercups and bluebells, and dainty ferns we found hidden among the boulders. Walking was generally good, and in steep places, we were assisted by stakes driven in the ground. After reaching a height of 980 feet above the sea-level, we stood upon the extreme point of the North Cape in latitude 71°, literally upon the threshold of the unknown.

SUMMIT OF NORTH CAPE.

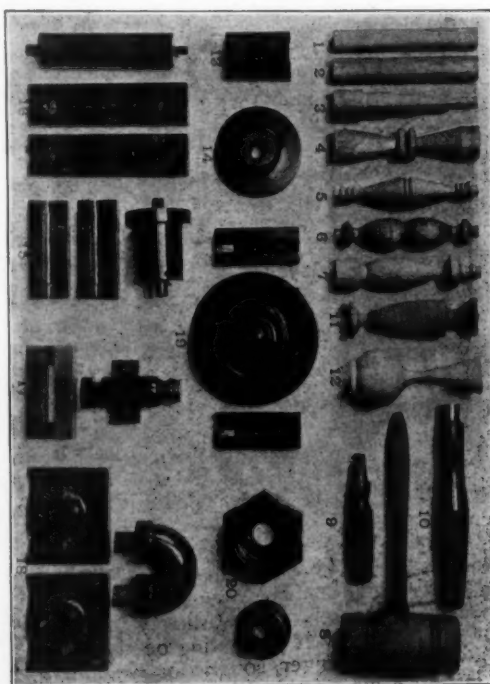
There was a plateau extending about a third of a mile, and after walking over gently rising ground, we arrived at

the edge of the cliff. We looked about us, in silent wonder and awe. To the northward was that unknown region, to solve the mysteries of which, so many lives have been sacrificed. Far to the eastward was Asia, in the distant west lay America, and southward were Europe and Africa. The stillness was almost impressive broken only by the monotonous murmur of the waves, dashing against the cliff and muffled at this great distance. The wind seemed to be sobbing and sighing a mournful accompaniment to this solemn anthem sung by nature's choir, and the sad repose of this desolate landscape leaves a lasting impression on one's memory.

Near the edge of the cliff, is a small granite column, around which we grouped ourselves, aiming at the most artistic effect, and had our pictures taken. The ground at our feet was covered with soft, reindeer moss, which yielded to the tread like a rich carpet of velvet. Great masses of white quartz here and there, gave the appearance of patches of snow, and in fact, in wandering over the plateau we came across snow and tiny rivulets. We peered over the side of the rugged cliff, and as we were examining the deep gullies, we were startled by the boom of a distant gun, the echoes reverberating through the chasms of the rock, mingling with the harsh, wailing screams of the affrighted sea-gulls.

NORSE-KING.

The signal had been sent from the "Norse-King," with its English flag fluttering in the breeze, and handkerchiefs were waved at us by a party of astronomers on board. They were on their way to Vadsø, a fishing village off the coast of Norway, where they intended to make observations of the total eclipse of the sun, August 9th. Later on, we heard about the failure of this expedition, owing to the intervention of clouds, at the very moment of totality. Waving our handkerchiefs at the astronomers in return, and wishing them good luck, we prepared to descend the cliff, a much easier task than the ascent. I started in the last boat, and as it drifted from the shore, a Norwegian peasant came out of a hut, and played a melody by Ole Bull on his violin. As the mournful strains floated over the waves to us, it seemed a fitting climax to this most delightful experience.



MANUAL TRAINING EXERCISES, COURSES II. AND III.

The School Journal.

NEW YORK & CHICAGO.

WEEK ENDING AUGUST 21, 1897.

Again science and education have lost a most valiant member. After a prolonged illness, Wilhelm Thierry Preyer, formerly professor of physiology at the University of Jena, died at Wiesbaden, Germany, on July 15, 1897. His distinction lay in having made the field of psycho-genesis his own, erecting it into a special branch of investigation. Accepting certain Darwinian principles, his early treatise on "Psycho-Genesis" became expanded, by the observation and interpretation of the phenomena of childhood, in 1881, into "The Soul of the Child," which still lives in the fourth edition in the original German, and has been translated into several foreign languages. His studies of the morphology of the human embryo, of physiological optics and acoustics also achieved eminent results. Education has lost a friend who was equipped with that patience and fidelity to facts which alone promotes the practical welfare of man. Child study, now so familiar, was brought within the field of scientific interests by his chief work, which has long since become a classic among the observers of mind life in the infant and child. To the last he did not cease to bring the child, as an object worthy of profound inquiry, to the attention of psychologists and naturalists. In a later issue we hope to present to our readers a more extended notice of his life and labors.

The prize contest for the best article of two thousand words on "The Use of the Stereopticon in Teaching" closed August 1. As the readers of *The School Journal* know, the prize consists of a hundred-dollar "Normal School Lantern," a stereopticon especially adapted for use in the school-room. The contest has brought out a very large number of articles, a careful examination of which will require from one to two months. The results may not be announced before the first week in November.

In Iowa the authority of the teacher extends to all acts of pupils whose effect reaches into the school-room and in any way injures the school. Any act of pupils subversive of the authority of the teacher or detrimental to the best interests of the school may be forbidden. This is comprehensive and far-reaching, but is sound in principle, and our courts and many others sustain such views. Were it not so, the authority of the teacher and the welfare of the school might become subject to ill-will and malice arising from acts taking place in the school-room. The attempt might be made to "get even" with the teacher by things done outside of school, the direct effects of which would tend to destroy the authority of the teacher. Against all such irresponsible acts the law raises its shield.

The "Youth's Companion" tells of one home where sins against purity of English are really appreciated, even in these days of slang and slipshod English. A small boy and his sister were quarreling one day when the boy, quivering with anger, sought for language in which to denounce his sister. "You bad," he cried; "you bad, you bad—" then words failed him, until with a flash of inspiration, he added, "You bad grammar, you!"

Editorial Letter.

ENGLAND.

The charm thrown around Geneva by Byron was hard to break. We decided to leave, however, as the weather had become oppressively warm. A night train leaving about nine o'clock was selected; the ticket to Dover cost \$16.00; pillows costing a franc each were hired; we reached Paris 7:30 next morning; took the "Ceinture railroad" to the Nord station; were delayed and lost the connection. Wiser ones took cabs and succeeded. This "Ceinture railroad" is one that encircles Paris and connects stations, and it is very poorly managed; travelers say the delay is made purposely; it certainly looked like it. The same difficulty existed here this year that existed four years ago; the employees at the great Nord station speak the French language only; in fact the English railroads have been obliged to maintain a man here at their own expense to give information as to trains north and south. This unwillingness of the French nation to recognize the existence of its near neighbor is remarkable.

I had come to the conclusion that coffee was not drunk at all in Italy, or Switzerland from testing the various fluids dealt out at hotels and pensions during two months, so I hastened to the buffet, and called for "Cafe au lait" with expectancy, for who has not heard of "French coffee"? Alas! it was like the rest, made of peas, beans, and chicory; paying fifteen cents a cup, I arose disappointed from the table, to be met by the waiter begging me to "remember the garcon." This is another feature that makes travel in Europe unpleasant. The cab driver, the hotel waiter, the baggage carrier, know an American by instinct, they will receive the regular charge from their own countrymen and turn to other business; no sooner does the American pay them than they wait for a fee, and no matter what they receive they act dissatisfied. The paying of fees is an affliction.

CANTERBURY.

We arrived in Canterbury to find it flooded with visitors on account of the celebration of the thirteen-hundredth anniversary of the coming of Augustine here from Rome; in the cathedral on Sunday were thirty bishops together with many clergymen. The Anglican church claims St. Augustine, and so does the Roman church. The town has about twenty thousand inhabitants; its celebrity is due wholly to its ecclesiastical history; here is little wealth; the houses are small and unpretending; the cathedral is vast and imposing.

When Augustine came in 597 St. Martin's church stood where it now stands and Christian services were held in it; in fact there were a good many Christian churches in England at that time. It appears that he set to work to build a vast monastery, some parts of which are still standing. The cathedral was built on the site of King Ethelbert's palace; it was burnt by the Danes in 1011; when the Normans came it was rebuilt in the French style. This structure had not hitherto attracted much attention, but Henry the Third made Thomas a' Becket the archbishop, who determined to set his ecclesiastical power up, and if possible make the king yield to it; he had the three bishops excommunicated who performed the coronation ceremony on the king's son. This angered the king and turning to his courtiers he said, "Not one (of you) will deliver me from this low-born priest!" Four men met the challenge; on the 29th of December, 1170, they came to Canterbury and murdered the archbishop.

A citizen of Canterbury dipped a corner of his shirt in the blood of the archbishop, and on arriving home washed out some in water and gave it to his wife, a paralytic, who was (it was said) instantly cured. The blood on the pavement was gathered and diluted with water and offered for sale in vials. Pilgrims began to arrive and each would purchase a vial of the precious water; it has been estimated that many thousand barrels were sold.

Henry had serious political troubles during the next two years; in those superstitious times the rebellions, the invasions and the terrible storms that raged the following winter were all charged to the murder of the archbishop. He determined to do penance; going to Canterbury he walked through the streets barefoot; he kissed the stone on which the bishop had fallen; knelt at the tomb in the crypt and received five blows from each bishop and abbot present and three from each of the eighty monks; passed the whole night fasting there suspended one of the vials con-

taining the martyr's blood mixed with water around his neck and went off humbly to London.

One of the most curious chapters in history is that which tells how the crypt became the scene of visitation by Pilgrims from all parts of the world. The cathedral had to be reconstructed on account of a fire that had occurred, and in 1220 a great spectacle was witnessed; the removal of the remains to a new shrine east of the altar on the main floor of the cathedral. Two years' notice had been given of the event, and a vast crowd assembled; wine and food were distributed free; hay and provender were given free on the entire road from London. Now for three centuries Pilgrims came; it was one of the great centers of Christendom. Chaucer has pictured a common scene in those days in his "Canterbury Tales."

The Pilgrims in those days found numerous inns at their disposal, they visited the shrine which was covered with jewels, pearls, sapphires, diamonds, and rubies; they dropped their offerings; they bought leaden bottles containing the saint's blood mixed with water to carry to diseased persons who could not make the journey, and thus Canterbury was a center of activity.

Time wrought changes. In 1538 Henry Eighth ordered the destruction of the shrine; it was broken open, the bones burnt, the jewels, filling two great chests, carried off. The place where it stood is now vacant; the floor worn smooth by the knees of the numerous Pilgrims testifies to the veneration of an age that can never repeat itself again in England.

There is a building here, now used as a home for aged men, that was founded by Thomas a' Becket, and which is in good repair, though the bones of its founder have been scattered to the four winds. It was to be used as a hospital, originally; when Pilgrims came it was allowed to be used for them for one night only—each to have four pence expended for his sustenance. This reminds one of the home for "Seven Poor Travelers," in Rochester, described by Dickens, each to have four pence in the morning as he went away and not to be entertained again. A flavor from the past has been imported to many parts of this country, but Canterbury has the special advantage of having an early poet to depict the curious life that went on here. "Canterbury Tales," are apparently more popular each year.

A. M. K.



Jean Ingelow

Topics of the Times.

The assassination of Prime Minister Canovas, of Spain, by an anarchist will be attended by some important results. The appointment of Azcarraga in his place is said to be only temporary and Sagasta will eventually be premier. The greatest obstacle to the granting of concessions to the Cubans has, by



The late Prime Minister Canovas.

this anarchist act, been removed. It is said that Gen. Blanco will succeed Gen. Weyler before the opening of active operations in November. Blanco is a much more humane man than Weyler.

Jean Ingelow, the celebrated English poet, whose works have long been popular in this country, died at her home in London, on July 20. Her poems are marked by true feeling, though none of them may be termed great. "Songs of Seven" is probably the best of her verse. She also wrote some very popular books for children, as "Mopsa's Fairy," "The Little Wonder Horn," "The Little Wonder Box," etc. Among her longer stories are "Off the Skeligs," "Don John," and "Fated to be Free."

Russia has decided to build a gigantic canal connecting the Black sea and the Baltic. The canal, as projected, is to connect Riga, on the Baltic, with Cherson, on the Dnieper river, near the Black sea. It is to be 1,000 miles long, 213.23 feet wide at the surface and 114 feet at the base, with a depth of 27.9 feet. The largest battleships in the world will be able to pass through it.

Uprisings against English rule have lately occurred in various parts of India; several leaders have been arrested, and other measures taken to suppress the revolt. The British garrison of the Malakand, in the Chitral, has been strongly re-enforced. It has lately transpired that the ameer of Afghanistan is at the bottom of some of the trouble. He is a fanatical Mohammedan, and has been stirring up his co-religionists in India to revolt against Christian rule.

X-rays are now used to show the strength of the heart's action. They have shown that the work done by a sound heart has been greatly over-estimated, and have thus made easier to understand the vibrations of a diseased heart. It is now possible to detect disease of the valves much earlier than before; also to find the relations of the heart and diaphragm. The rays are also used for early diagnosis of diseases of the lungs, stomach, and kidneys.

It is said that a great trust has been formed, through the efforts of John D. Rockefeller, of the Standard Oil Company, compared with which all the other combinations of capital seem insignificant. The following corporations are included: Standard Oil Company, United States Leather Company, American Sugar Refining Company, National Lead Company, United States Rubber Company, American Spirits Manufacturing Company, American Cotton Oil Company, and New York, Chicago, and Bay State gas companies. The effect of this combination, it is

said, will be a rise in prices. The total amount of capital represented is about \$1,000,000,000.

Prof. S. S. Gorby, formerly state geologist of Indiana, reports a remarkable discovery of onyx in Metcalfe, Green, and Hart counties in Kentucky. He says they are the richest beds ever known to exist; and that the onyx in that region is worth far more than all the gold of the Klondike. The average value of onyx is from \$5 to \$15 a cubic foot, and as this onyx is of the best quality and of almost unlimited amount, it will be readily seen what a great treasure has been discovered. Onyx beds have been worked in Arizona, Arkansas, and Virginia, but these are not near as rich nor as convenient as the Kentucky beds. Nearly all the Mexican beds, from which much of the world's onyx supply has been obtained, are exhausted.

Secretary Alger has received letters from Gen. Nelson A. Miles, which constitute his report of the condition of European armies and fortifications. He gives many facts concerning the armament and equipment of the armies of Italy, Austria, England, Germany, and Russia. He has a high opinion of the Mannlicher rifle now used by Austria; that government is constructing a rifle that it thinks will be superior to any now in use.

The Tennyson memorial on the isle of Wight was unveiled by Lady Tennyson on August 6, the anniversary of the poet's birth. The memorial is on Fresh water Down, Tennyson's favorite walk, and it is in the form of an Iona cross, replacing the old beacon on the same site as a sign for sailors at sea.

Paul Dunbar, the negro poet of the United States, who owes his introduction to the public to W. D. Howells, has received a most flattering reception in London. His readings of his own verses have been highly prized by the press, nor are criticisms of the verses themselves less friendly.

The Siberian railroad managers have just announced the schedule of time that will go into effect when the first through train reaches Vladivostok, July 1, 1901. The entire journey from London to Vladivostok of 8,800 miles will take twelve and one-half days.

A monument to General John A. Logan was dedicated in Lake Front park, Chicago, July 22. It is the largest equestrian statue in America, being 15 feet 11 inches high and weighing 14,200 pounds.

Reports from the valley of the Nile show that the British are strengthening their hold on Egypt and the Soudan. Sir Herbert Kitchener lately started on the upper Nile expedition, which means that the city of Khartoum is the objective point. The Italians will give the British the advantage if they so desire, in attacking the dervishes, of taking the route by way of Massowah to Kassala, thus avoiding the longer route from the Nile. The British ambassadors were lately received pleasantly by King Menelek, of Abyssinia, but it is a question whether the shrewd monarch is in favor of replacing the dervish power, which he does not fear, by a foreign power which may make trouble.

Utah has just celebrated the semi-centennial of the establishment of the Mormons in that state. Brigham Young entered Salt Lake valley July 24, 1847, leading a band of 143 men, three women and two children; about fifty of them survive. Original methods of living were illustrated. The pony express was re-established, and the survivors of the original pilgrimage entered the Salt Lake valley by the old road in the old way.

The largest storage reservoir in the world is now being constructed in Boston. Its capacity will be sixty-five billions of gallons, or enough to supply that city for three and a half years. It will hold two times as much as the new croton reservoir in New York, three times as much as the six reservoirs in Birmingham, Eng., and thirty times as much as the Cochituate of Boston. Its capacity will be greater than Boston's inner harbor. This vast reservoir will cover 4,000 acres, and will be retained by a dam 1,250 feet long and 127 feet high.

Admission day, Sept. 9, will be fittingly celebrated in California this year by the unveiling of a fountain. The one figure against the substantial staff is that of a miner of '49; it represents a boy who holds a pick on his right shoulder and "Old Glory" in his left hand.

The Canadian government is reported to be contemplating the adoption of a national flag. A sample flag has been received by the admiral from Ottawa for his opinion. It is a British flag with the union in the usual place and a white diamond in the field, with a green maple leaf in the diamond.

Manual Training in Washington.

The public school system of Washington, D. C., embraces five distinct courses of shop work, extending over the six years from the seventh grade to the fourth year of the high school. In each kind of work the end sought is to teach



Manual Training—Special Work, Course I. (Washington, D. C.)

fundamental principles and processes by means of simple, progressive exercises. The skill of hand and eye, and the elementary knowledge of the mechanic art thus acquired, are applied in some article of utility, which involves an application of the principles learned.

The courses are as follows: joinery, grades seven and eight, woodturning, high school, first year; pattern making, high school, first year; forging, high school, second year; machine-shop work, high school, third and fourth years. Each course has its related work in drawing.

In grades seven and eight two hours a week are given to shop instruction, which is compulsory. In the high school instruction may be taken either as an elective branch, two hours a week, or in the technical course, six hours a week. The former plan is provided for boys of the academic and scientific courses, so that they need not entirely forego the benefits of tool instruction.

The technical course offered by the Central school is similar to that maintained in many of the large cities of the country, and aims to give an English high school course, with manual training added. As the technical course is a regular course at the Central school only, pupils who wish to take it must apply for admission at that school, without regard to the part of the city in which they live. So far it has not been possible to duplicate at the branch schools the expensive equipment necessary. The accompanying cuts show specimens of the regular practice work.



Manual Training—Individual projects, Course I. (Washington, D. C.)

Chicago Notes.

Chicago, Ill.—A subject much discussed just at present by those interested in educational matters in this city is whether "Barnes' History of the United States" shall be used in the public schools or whether a change shall be made in favor of McMaster's and Fisk's text-books. The superintendents have decided in favor of the latter, but their decision is not final and the question is to be settled by the board.

It is rumored that some politicians of Chicago are trying to get control of the board of education for the purpose of removing both Col. F. W. Parker from the principalship of the Chicago normal school and Albert G. Lane from the superintendency of the Chicago schools. Among those mentioned as successor to Mr. Lane, should this come about, is Dr. W. T. Harris, United States commissioner of education; but of course any such proposal is absurd, for any one acquainted with Dr. Harris would know that he would not for a moment consider any such position as the superintendency of the schools of any city.

The board of education has accepted the ultimatum of the civil service commission and decided to come under the civil service law. This action will affect 1,200 employees. Even the janitors, engineer, and office employees will be compelled to take a civil service examination. The examination will probably require three months, and it is hardly expected that the board will be completely under the law before the beginning of the new year. The question now raised to be considered and passed upon by the commission is: "Are the officers of the board elected by the board itself exempt from the law?" The decision probably will be that they are.

The Illinois state normal school has lost this summer two of the ablest men of its faculty; Prof. Van Liew, who has accepted a position in the normal school at Los Angeles, Cal., and Prof. Galbreath, who has been called to the school of pedagogy at Buffalo.

Chancellor McCracken, of the University of New York, in speaking of the summer school conducted by the faculty of the Chicago university, said recently:

"One of the striking educational features of this last decade of the century is the taking up of instruction in the summer time by leading universities. The foremost of all in the amount of work attempted is that youthful giant, the University of Chicago. Chicago makes its summer term of three months equal in importance to that of any other three terms of the year. It tempts a professor to teach all summer by offering him a vacation of three solid months in spring, autumn or winter. The result is significant. More than 1,000 students were in actual attendance in the summer term of 1896, which will be increased perhaps to 1,200 the present summer.

"Chicago does her summer work on the large scale which she adopted four years ago for her World's Fair. She is accordingly making herself felt in every quarter. More than two hundred college and university faculties had one or more of their professors or instructors attending the University of Chicago in the summer of 1896. If New York university to-day had one-half the endowments of the University of Chicago we should imitate Chicago in setting up a summer term of twelve weeks. New York ought no more to allow Chicago to take away her university territory than her business territory. Yet to-day the Gulf states and the south Atlantic states, to say nothing of the Middle and Western states, are looking to Chicago in the summer time rather than to New York. New York builds more ocean yachts and summer palaces, and repairs more dilapidated foreign castles than Chicago, but I am not sure that she matches her Western rival in serving educationally the United States of America."

Prof. Charles C. Van Liew was born at Aurora, Ill., Feb. 15, 1862; he attended the schools of that city, then managed by W. B. Powell, now of Washington, D. C.; was graduated from the high school in 1881; taught and studied in Cook county, Illinois, till 1890, when he entered the University of Jena, Germany, where he received the degree of Ph.D. in 1893. Soon after he translated "Ziehen's Physiological Psychology," and "Rein's Outlines of Pedagogics." He taught for a time in the normal school at St. Cloud, Minn., then went to the Illinois State normal in 1893.

Louis H. Galbreath was born at Ashmore, Coles county, Ill., Dec. 22, 1861. He spent the first eighteen years of his life on his father's farm; he attended the public school in which he subsequently taught; was graduated from the normal, at Normal, in 1885, and from Cornell university in 1890; remained there two years, doing post-graduate work in ethics and philosophy, holding during the last year a scholarship in the school of philosophy; had charge of the training department of the normal school at Winona, Minn., from 1892 to 1896, when he took the chair of pedagogy and psychology at Normal.

There is a feeling of deep regret on the part of their fellow teachers in the Illinois normal at the loss of these two men, but the feeling is general that each has before him a brilliant future.



Charles C. Van Liew.

Summer Schools a Success.

Newark, N. J.—When the summer schools were started in this city, several years ago, there were some misgivings on the part of the conservatives. The large attendance at these schools attest the necessity for their institution. It seems that the summer is just the time needed by many to acquire education. The term is not long, but to many pupils it affords a chance for instruction impossible at any other time, and these schools are a very useful supplement to the regular system of the city.

No Registers, No Pay.

Sacramento, Cal.—It is the opinion of those versed in the school laws of this state that nearly 7,000 teachers of the public schools will be unable to draw any pay until the next term of the legislature. In consequence of the fact that the appropriation for the state printing office was vetoed by the governor, the school registers cannot be obtained for the teachers, and unless these registers are in their possession and duly filled out the county superintendents are forbidden to draw warrants in their favor. It is reported that he subject has been brought to the attention of the attorney-general, and that he has been asked to render an opinion; but the language of the code appears to be clear and unmistakable, and there seems at present no solution of the difficulty.

The Need of Educated Men.

Worcester, Mass.—The important feature of the opening of the summer school of pedagogy and child study at Clark university was the address of Senator Hoar on the "Need of Higher Education." Senator Hoar said, in opening his address: "This great self-governing republic of ours needs to-day more than ever what the university can teach. We have a thousand questions pressing upon us to-day which can only be answered by investigators who approach them in the quiet, thoughtful, undisturbed temper which belongs to exact science.

"The man who is to solve our great social, political, and economical problems must have nothing to gain or to lose for himself by the result. He must not use his theory as an instrument. He must study truth, not seek for popularity. He must not equivocate or be afraid. He must be free from conceit, from hatred, and from scorn. He must take counsel of hope, and not of despair."

Art Instructor at Mechanics' Institute.

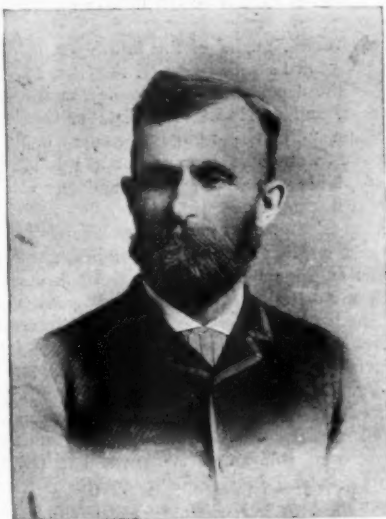
Rochester, N. Y.—The board of commissioners of the Mechanics Institute have secured Miss Anna Page Scott, of New York city, as instructor of the classes in pen and ink, life drawing, composition, and illustrating. Miss Scott began her education in the Chicago Art Institute, later attending the Academy of Fine Arts of Philadelphia. Two years afterward were spent in Paris in doing life work under celebrated instructors. Another year in Holland spent in painting and sketching was followed by a course in composition and drawing, under Walter Shirlaw, at Pratt Institute, Brooklyn. Miss Scott is well-known as an illustrator for the Century Publishing Company, "The Youth's Companion," and other periodicals.

A Practical Education.

Saginaw, Mich.—In his annual report to the East Side board of education, Supt. Warriner says: "The greatest need of our high school and our grammar schools in Saginaw as well, is, I believe, facilities for manual training and instruction. The class which has recently graduated from our high school has numbered 49. This same class entered the high school four years ago 155 strong. It is a pertinent question to ask why so many have dropped out during the four years. While it is not probable that the establishment of manual training schools in our system would fully solve this problem, I have no doubt that many more of our pupils would be retained for a longer period in our schools.

The New York Society for Child Study.

The first meeting of this society was held as a sectional meeting in connection with the State teachers' association at its last meeting in New York city. A valuable paper was read by Prof. M. V. O'Shea, of Buffalo, and discussed by State Supt. Skinner, Prof. Cattell, of Columbia university, Prof. Bardwell, of Cortland, and Mrs. F. Schwedler Barne, of New York. The following officers were elected for the ensuing year: President, Supt. George Griffith, Utica; vice-president, Supt. Edgar Dubs Shimer, New York; secretary-treasurer, Prof. M. V. O'Shea, Buffalo School of Pedagogy.



George Griffith, Supt. of Schools, Utica, N. Y.

Executive committee; president and secretary-treasurer, ex-officio Miss Anna K. Eggleston, Buffalo; Jenny B. Merrill, New York, Prin. W. H. Benedict, Elmira, Mrs. John G. Allen, Rochester, Prof. Wm. H. Squires, Clinton, Miss Mary E. Lang, Oswego, Dr. Albert Leonard, Binghamton.

A constitution was adopted and regular members were received. The constitution outlines the purpose of the society to be specifically:

1. To hold two general meetings a year.
2. To establish and direct local child study centers.
3. To prepare outlines and other material for the instruction and guidance of parents and teachers.



Dr. Edgar Dubs Shimer, Assist. Supt. of Schools, New York.

4. To act as a bureau of distribution for the literature of child study.
5. To encourage and direct scientific studies relating to the rational treatment of childhood.

An advisory board of prominent educators, editors, physicians, and other specialists is provided for in the constitution. Such a board has been selected, the several members have accepted, and are showing a live interest in the work of the society.

ARTICLE IV—MEMBERSHIP.

"Any person interested in child study, whether in New York state or elsewhere may become a member by paying fifty cents into its general treasury. This fee shall entitle a member to all the publications and other benefits of the society during the year in which the fee is paid."

Prof. O'Shea, of whom much help was expected, has removed from the state to fill the newly arranged professorship of pedagogy in Wisconsin state university, and a new secretary-treasurer is to be selected. Until such a selection is announced member-

ships may be sent to the president. It is expected that a large number will form this society from the first. It is hoped that the society will be of real benefit to all who join, and of some help to the cause of child study.

Child Study Day at Winona.

Among the educational congresses of the University Summer school in session at the Winona (Minn.) normal school will be a "child study day," to be held Aug. 27. All persons interested are invited to attend and take part in this meeting. Any one desiring to become a member of the Minnesota Child Study Association may do so by giving his name, with fifty cents, to the secretary, Mr. E. A. Kirkpatrick.

The program of the meeting of Aug. 27 is as follows:

"Development of the Language Faculty," H. Slack.

"Children's Mistakes in Language," S. S. Fair (based on data collected from various schools).

CHILD STUDY IN THE HOME—"Some Phases of Child Study in the Home," Mrs. A. W. Rankin; "What the Mothers' Clubs of St. Paul Have Done in the Line of Child Study," Mrs. Cora Frances Powers.

CHILD STUDY IN THE NORMAL SCHOOLS—"At St. Cloud, Isabel Lawrence; At Maunkato, S. H. Rowe; At Winona, D. H. Roberts.

CHILD STUDY IN THE PUBLIC SCHOOLS—"Need for Child Study Observed in the State," A. W. Rankin, Inspector of Graded Schools; "Child Study in the Minneapolis Schools," Mrs. Alice Cooley; "Moral Ideas of School Children," J. A. Vandyke (based on judgments expressed by children of all grades, from the third to the eighth grade); "Children's Experiences with Money and Teachers' Influence upon Pupils," E. G. Adams (based on papers written by pupils and reminiscences of teachers).

CHILD STUDY IN THE SUMMER SCHOOLS—Reports by those who have lectured on Child Study in the summer schools, S. S. Fair, J. A. Vandyke and E. A. Kirkpatrick.

So far as time permits the above papers will be discussed and reports given by others, especially by parents and by teachers in public schools who have engaged in Child Study during the past year.

Chattanooga, Tenn.—At a meeting of the board of education held recently it was voted that new grammars, geographies, pens, and writing books be adopted for use in the public schools. Several of the school commissioners are now laying plans to defeat this action, by heading a petition, signed by many patrons of the schools, asking that the board reconsider the changes before the opening of the schools in September.

New York City Vacation Schools.

The vacation schools of New York city, held under the auspices of the Association for Improving the Condition of the Poor, began on the morning of July 7. By nine o'clock of the opening morning, the ten schools were fairly besieged by hundreds of children, and in several instances the doors had to be closed against new comers within fifteen minutes. Nearly two thousand children had to be turned away for lack of room in the buildings allotted for this purpose. Never since the inauguration of these vacation schools for the children of the tenement districts have so many children been gathered together. The value of the schools is proved by the enthusiasm of those pupils who have attended in former years, who, in many cases have asked for higher grade instruction.

The closing exercises of four of the vacation schools were held Aug. 17. Pres. Charles B. Hubbell, of the board of education, who presided over the exercises of primary school No. 2, stated that it was quite probable that the city would conduct vacation schools at no distant time.

In the school-rooms of school No. 86 were shown the results of the work in manual training received by the pupils. Specimens of plain and fancy sewing, with clay modeling, represented the work of the girls; wood carving and joiner work that of the boys.

Legal Holidays in Pennsylvania.

The holiday bill recently passed by the Pennsylvania legislature provides for eleven holidays, a day for Thanksgiving making twelve:

1. Jan. 1, New Year's day.
2. Feb. 13, Lincoln's birthday.
3. Third Tuesday of February, election day.
4. Feb. 22, Washington's birthday.
5. Good Friday.
6. May 30, Memorial day.
7. July 4, Independence day.
8. First Monday of September, Labor day.
9. First Tuesday after the first Monday of November, election day.
10. Dec. 25, Christmas day.
11. Every Saturday after 12 o'clock noon.
12. The day selected for thanksgiving.

Changes made by this bill include February election day, which is a whole holiday, instead of a half; Labor day shifted from the first Monday to the first Saturday of September, and the observance of Memorial day on Monday, instead of Saturday, when the 30th falls on Sunday. Lincoln's birthday has not previously been a legal holiday.

The Pennsylvania Meeting.

The forty-second annual meeting of the Pennsylvania State Teachers' Association was held at New Castle, Lawrence county, June 29 and 30 and July 1. The meetings of the convention were held in the Central Presbyterian church. The program represented every department of educational work, covering a wide range of topics.

Upon the opening of the Tuesday afternoon session, Dr. D. J. Waller, of Indiana, president of the association, gave an address, taking for his subject, the "Limitation of Organization in Education." In beginning, he spoke of the results of organization in all lines of business and trade, and showed the effects of the passing away of individual effort. Thence he proceeded to speak of matters educational, and said that organization in education had progressed so far that it seemed a question as to whether there was any limit to its possibilities. At the present time the teacher or professor has to instruct too many scholars, and consequently is not able to give individual attention to each, and just so far as the new system of organization has supplanted the old one of personal supervision, it is not a success. Formerly the teacher was able to give time and thought to the development of each scholar, but now this is changed. In closing, Dr. Waller said that organization in education would only be a complete success when it would do for the masses that which formerly the old system did for the individual.



Dr. M. G. Brumbaugh, President Pa. State Teachers' Association.

At the same session, Prof. W. O. Robinson, of Athens, Pa., addressed the assembly, taking as his subject, "The Teacher, Real and Ideal." He spoke of the real teacher as she is found in every-day life, and lauded her patient and untiring efforts, which are too often either misunderstood or not realized at all. He also spoke of the great necessity of the teacher's being possessed of good health, good habits, and a good education.

The evening session was opened with a solo by Miss Sara Dana Falls, Chancellor Dr. Holland, of the Western university of Pennsylvania, was to have been present and make an address upon the educational advantages of western Pennsylvania, but as he was unable to be present, the Rev. Mr. Ferguson addressed the assembly on the subject. He was followed by Dr. Jordan, pastor of the First Presbyterian church, who talked upon "The Fellow that Wins." He said that there was no one who had not ambition of some kind. This is well and right, and is as it should be; for without this inspiration, or power within to lead one on to greater things, man is bound to be a failure. The fellow who wins must be one of unquestioned integrity, for no man will tolerate one whose integrity can be questioned, and no one respects the man whose word can not be taken. The thing that is most demanded now is he whose honesty is above reproach or suspicion. A man may be a little uncouth and his manners may perhaps offend, but if he only be a man of known reliability all the rest is forgiven.

WEDNESDAY MORNING

The largest audience of the convention was present on Wednesday morning. Miss Anna Buckbee, of the California, Pa., State normal, read a paper upon, "The Motive of the

Child an Essential Factor in Education." She first dealt with the reasons why so many children leave school at an early age. This was not attributed, to any great extent, to poverty, but rather to other causes. Children sometimes leave school because they think they are needed at home, while others wish to enter upon a career of money making as soon as possible, failing to see that preparatory work is the quickest method of attaining their end. The motive of the child is a great and important factor in determining the benefit received. The teacher has much to do with inspiring the pupil, and as the motive of the teacher is, so will be the motive of the child, to a great extent.

After a brief recess, pupils of the fourth grade of Lincoln school sang the "Bird's Lullaby," and then Dr. M. G. Brumbaugh, head of the department of pedagogy in the University of Pennsylvania, and president of Juniata college, addressed the assembly on "The Emotional Element in Education." He said that the emotional side of the pupil was too frequently overlooked. This was a fatal defect, and one calculated to make the pupil unhappy; not only during his school life, but afterward as well. In childhood the emotional faculties are the keenest and need and demand recognition and a careful training of the emotional nature is an absolute essential to a well-balanced mind. The child will carry away only those things which he likes and in which he is really interested.

The Wednesday afternoon session of the association was devoted principally to the transaction of business. The report of the Dr. Burrows' memorial committee was presented by the chairman, Dr. J. P. McCaskey, of Lancaster. This committee had in charge the collection of subscriptions to pay the expense of a suitable memorial to the late Dr. Burrows, one of the greatest of Pennsylvania's educators. This monument has been erected, at a cost of \$4,135, and subscriptions aggregating \$3,434 have been received to defray the expenses thereof. This leaves a balance of \$701, which has yet to be met.

Deputy State Superintendent John Q. Stewart moved for an amendment to the constitution in regard to fixing the time of meeting of the association, which was carried.

The selection of a place for the next convention was then considered, and the members of the association from Center county invited the assembly to meet in Bellefonte. This invitation was accepted and the time of meeting was fixed for the 5th and the 7th of July, 1898.

The following were nominated as officers for the coming year, all of them being afterward elected, with the exception of A. B. Ritchie, superintendent of New Brighton, who withdrew his name:

President, Dr. M. G. Brumbaugh, of the University of Pennsylvania; vice-president, Miss Martha Collins, superintendent of Cameron county; city superintendents, E. Mackey, of Reading, and Prof. L. S. Shummell, of the Harrisburg high school; secretary, Dr. J. P. McCaskey, of Lancaster; treasurer, Prof. D. S. Kech, of Kutztown.

Executive committee, E. E. Miller, of Bradford; A. B. Ritchie, of New Brighton; D. O. Fortney, Esq., of Bellefonte; Superintendent J. M. Canon; Charles A. Lose, of Williamsport, and H. C. Missimer, of Erie.

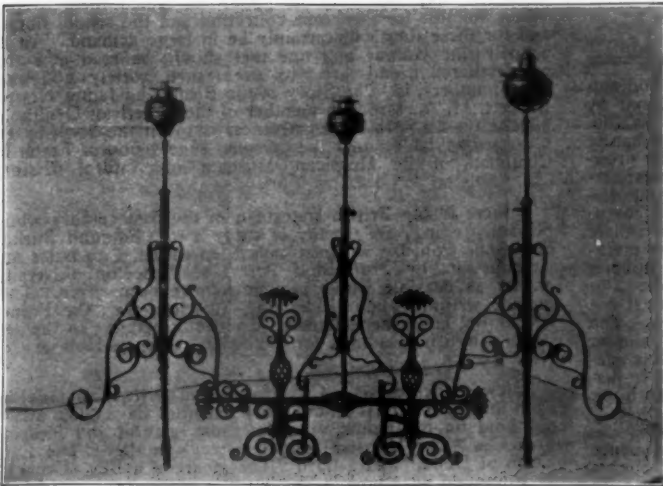
Enrolling committee, E. L. Gramley, A. R. Rutt, Miss Belle Rankin, D. O. Elters, all of Bellefonte, and C. E. Kauffman, of Tyrone.

WEDNESDAY EVENING

Prof. Booker T. Washington, of Tuskegee, Ala., gave a most interesting talk on the negro question.

Mr. Washington first told of his early life, he being born of slave parents in Virginia, in 1858. At the close of the war his parents moved to West Virginia, where he worked in a coal mine for some years, when he heard of a school in Richmond, Va., where negro boys could secure an education. He made his way there, and after many trials and privations, finally secured the desired education, having worked his way through. This was in 1881, and he immediately went South and established a school at Tuskegee, which has grown in sixteen years to a great university, with 850 pupils and eighty-one instructors. This school is not dependent, but owns property worth over \$250,000. There a great work is being done for the negroes, who are being taught useful trades and professions. In the opinion of Mr. Washington, when the negro acquires some property and lives well and respectably, he is respected and treated well by the whites of the South, and when all negroes are able to accumulate something the race problem will settle itself.

After the election of officers Thursday morning, Prof. J. Y. McKinney, superintendent of Beaver Falls, made an address upon "The Personality of the Teacher." City Superintendent Kinsley, of Franklin, followed. Dr. J. D. McCaskey, of Lancaster, then gave a brief lesson on memorizing, which was a pleasing diversion. The meeting of Thursday afternoon was at Cascade park.



Manual Training—Projects, Course IV, Washington, D.C. (See Page 151.)

Convention of Maryland Teachers.

The thirty-first session of the Maryland Teachers' Association was held July 13, 14, and 15, at Blue Mountain. The important address of the opening evening, July 13, was that of Pres. E. B. Prettyman. He said in speaking of the condition of the schools of the state: "I am satisfied that the school officers of the state are doing all in their power, intelligently and energetically, to maintain and improve the system. The one great hindrance to the rapid improvement in our system is the lack of funds. The salaries of our teachers are too small. There should be for our best and most progressive teachers a fair prospect of promotion and increase of salary, as they grow and demonstrate by actual work their increasing skill in the profession of teaching."

The first paper of Wednesday morning on "The Danger Line" was read by Prof. Ed. Browning, of Cumberland.

Prof. Charles Alvey, of Hagerstown, gave an address on "Civics and Citizenship." In closing, Prof. Alvey said: "There has never been a time when such instruction in the principles of our government and the duties of citizens has been more needed. It is well known that whatever of impurity is in our politics is due largely to the fact that the average man of business feels little or no interest in the conduct of public affairs, and allows them to be managed by the boss and professional politician. Manifestly the remedy for this evil is in a more widespread knowledge of our political institutions and a livelier interest in their conduct."

Prof. Alexander Chaplain, of Easton, read an interesting paper on "Primary Reading. What Method? The Mental and Mechanical Sides Psychologically Considered."

Thursday morning the nominating committee made the following nominations for officers for the ensuing year, all of which were ratified:

President, John P. White, of Cumberland; vice-presidents, Prof. E. E. Raddatz, of Baltimore, and Thomas Jones, of Caroline county; recording secretary, A. F. Wilkinson, of Baltimore; corresponding secretary, Agnes F. Matlock; treasurer, Alexander Chaplain, of Easton. Executive committee—John D. Worthington, of Belair; Charles Rogers, of Towson; L. L. Beaty, of Queen Anne's, and William E. Smith, of Annapolis.

"With My Pupils," by Miss Laura M. Young, of Cumberland, was the first paper of the day. It was read by Miss Harriette Brown. Miss Young showed how children can be taught observation and attention by asking them questions about things with which they are familiar; for instance, what they see on their way to school, or tell all about a flower, or after having heard a story to reproduce it in full, but not verbatim. All this must be done in good English, and attention given to the originality of the pupil.

"Physical Culture" was the subject of an address by Miss Keturah Elizabeth Yeo, of Easton, Md. This paper was read by Miss Lillian Welty Barkdoll, of Hagerstown.

The address of Dr. James W. Bright, of the Hopkins, upon the acquirement of language was full of information and rich in suggestion to the teachers.

Prof. William S. Jackson, of Talbot county, gave an address on "Child Study."

At the evening session Mr. A. W. Hawks, the Baltimore humorist, gave a talk on "Sunshine." G. S.

The "Audubon Society of the State of New York" has been recently organized for the protection of birds. The president is Morris K. Jessup, and Miss Emma H. Lockwood is secretary and treasurer. The objects of the society are first the discouragement of the use of the feathers of undomesticated birds for ornamentation; second, the protection of birds and their eggs, and third, the establishment of an annual "Bird Day" in the schools of the state.

Brief Notes of General Interest.

Philadelphia, Pa.—A study of children's spontaneous drawings of the human face or figure, has been made at the summerschool of the University Extension Society at the University of Pennsylvania. It showed that all right-handed children draw the profile facing to the left, and left-handed children facing to the right. By comparing these drawings with those of primitive man, it would appear that the latter was right-handed.

Albuquerque, N. M.—Prof. C. L. Herrick has been elected president of the university of New Mexico, Prof. Hiram Hadley having recently resigned from the institution. Prof. Herrick is a man of scholarly attainments. He is a graduate of the Minnesota state university, was a student both at Leipsic and Berlin, was for many years professor in Denison (O.) university, and the University of Cincinnati. He is author of a number of scientific works, translated Lotze's Psychology, was at one time editor of the "American Geologist," and is now editor-in-chief of the "Journal of Comparative Neurology." It is New Mexico's invigorating climate that enables her to secure Prof. Herrick at the head of the university.

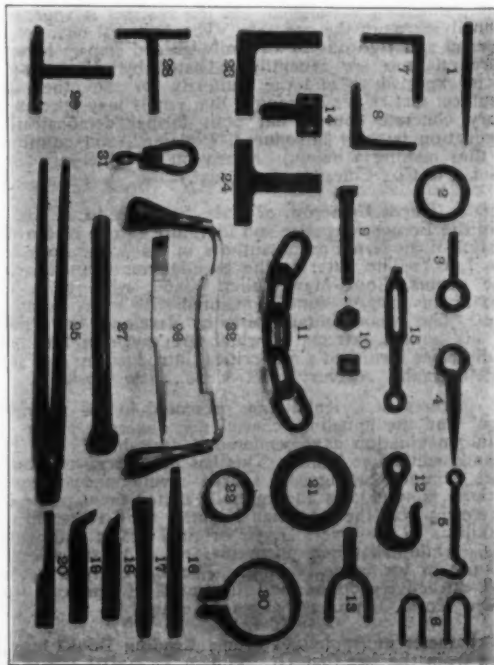
Prof. Charles E. Hodgkin, of the Indiana state normal and for twelve years connected with the private and public schools of Albuquerque, has been elected principal of the normal department of the University of New Mexico. His successor as superintendent of the Albuquerque schools is Prof. J. T. Perigo, of the Indiana state normal and university, but recently from North Dakota.

The amount appropriated by the last legislature for educational purposes was \$5,984,704. The appropriations are classified as follows:

For the state university, \$409,206; for the education and other exhibits at the Nashville exposition, \$15,000; for state schools at Cornell university, \$84,428; for normal schools, \$406,247; for academies and high schools, \$218,320; for the department of public instruction, including the distribution of the free school fund, \$4,497,591; for libraries, \$113,694; for state publications, \$333,214; for state museums, \$25,280; for extension work, \$490,000; for professional and school examinations, \$94,500.

The free library of Philadelphia circulated 836,898 volumes during the first six months of this year, an increase of 166,000 as compared with the same period last year.

Thousands of delegates were present at the opening of the Christian Endeavor convention in San Francisco on July 8. Among the addresses was one by Dr. Francis E. Clark, the founder and president. The society has had a marvelous growth. In 1881 there was one local society with 57 members; now there are 50,780 such organizations with 3,000,000 members; During the past year 5,000 local societies have been organized.



Manual Training Exercises, Course IV., Washington, D. C. (See p. 151.)

Books.

A text-book for the use of students in high schools and colleges on "Elementary Meteorology" has been prepared by the well-known specialist in the science, Prof. Frank Waldo, Ph.D. As the deductive treatment is difficult, even for mature minds, it was decided to give merely the facts and their probable explanations, in treating of the subject of the atmospheric conditions; furthermore, the elements have, as far as possible, been mentioned separately, in order to avoid the confusion of a more complex treatment, and the better to isolate the obscure and uncertain parts of the subject. The two methods, however, have been combined in treating the atmospheric movements. The book is intended to serve as a text-book of the elements of the science for general students, and must not be considered as a manual for practicing meteorologists. The desirability of more general knowledge of meteorology among the masses is apparent; this book, with its maps, charts, descriptions of instruments, and carefully prepared text is just what the earnest beginner of the study needs. (American Book Co., New York.)

The great work performed by Charles Darwin in science makes a brief biography of him particularly desirable. Such a volume has been written for the Century Science Series by Edward B. Poulton, and edited by Sir Henry E. Roscoe; it is entitled "Charles Darwin and the Theory of Natural Selection." The aim has been to present a connected account of Darwin's life in connection with his master work. The author, besides the "Life and Letters" of the great scientist, consulted many unpublished letters and other sources of information. The frontispiece is a picture of the statue of Darwin in the British museum of natural history. (Macmillan & Co., New York, \$1.25.)

Among the crowd of Parisian dramatists, some positively weak or bad, some mediocre, others brilliant but immoral, Emile Augier shines out as a bright particular star, because his style is vigorous, beautiful, eloquent. Therefore his comedy of high merit, "La Pierre de Touche," written in collaboration with Jules Sandeau, has been edited by Prof. George McLean Harper, of Princeton, for reading in schools and colleges. It is a romantic comedy in prose the scene of which is laid in Bavaria, among German critics. The subject is the deceitfulness of riches, and the play is a noble defence of high moral and artistic ideals. The introduction, besides an account of Augier and his works, gives a valuable criticism of modern French dramatic literature. (Ginn & Co., Boston.)

Of late years it has been found that much geometric work may be profitably pursued in the lower schools, but it must be presented in a different way from the old Euclid of the colleges. The object of "School Geometry," by J. Fred Smith, principal of Iowa College academy, has been to meet the demand for such work. The subject is approached gradually. Simple, geometric truths, already familiar to the average pupil, are classified and their logical relations illustrated. Simple problems are assigned, and the abstract is approached continually through the concrete. The informal changes into the formal and rigorous by carefully graded steps. New and obscure relations are generally indicated by references; the pupil is expected to find the authority for the other steps. The subject matter is so arranged that pupils may take an elementary concrete course, but omit formal demonstrations. The equation is early introduced, explained, and continually used, thus making a helpful preparation for algebra. (Scott, Foresman & Co., Chicago. \$1.00, net.)

Prof. A. Guyot Cameron, of Yale, has introduced the student of the French language and literature to one of the most delightful of modern French authors in his "Selections from Pierre Loti." The latter is the pseudonym adopted by the unique genius, Louis-Marie-Julien Viaud, who, by a long service in the navy, became acquainted with many lands and peoples. The cosmopolitan spirit he developed is manifest in all his novels, extracts of which are given in this book. The editor has furnished a fine critical introduction; also notes and bibliography. (Henry Holt & Co., New York.)

The pictures of Oriental life presented in the "Arabian Nights" and the unflinching charm they exercise over the youthful imagination have rendered it desirable that a cheap and handy edition be issued. This has been furnished for the Eclectic School Readings, M. Clarke having made selections from those famous tales and carefully edited them. The best of the stories from the "Arabian Nights" are here retold with such skill-as to preserve all their original charm and attractiveness, while adapting them in form and expression for school use or for home reading. The book itself is well printed, attractively bound, and illustrated. (American Book Co., New York, 12mo., 271 pages, 60 cents.)

The character of Appleton's Home Reading Books may be inferred from the fact that Dr. William T. Harris is the editor. They are scientifically accurate, and at the same time interesting to the one who has not been specially trained in

science. They are what the publishers aimed them to be—books suitable for the home collection and the school library, and for these they will certainly be in large demand. An especially fine volume and one that should be read now that our feathered friends are with us in such variety and such large numbers, is "The Story of the Birds," by James Newton Baskett, M. A., associate member of the American Ornithologists' Union. Special attractiveness is given the book by the illustrations made under the personal supervision of Frank M. Chapman, of the American Museum of Natural History. (D. Appleton & Co., New York.)

If there is any British statesman of the past century whose life and writings are worthy of study it is "Edmund Burke." Selections from his writings have been edited, with notes and introduction, by Prof. Bliss Perry, of Princeton university. So far as possible whole selections have been given. They include writings about India, the American war, the French revolution, and other subjects. The book belongs to the series of English Readings for Students. (Henry Holt & Co., New York.)

A few stories of school life have been written so different from the conventional school story that they have taken a lasting hold on the public. One of those natural and pleasing stories is "The Hoosier Schoolmaster;" another "The Evolution of Dodd," and a third "The Heart of a Boy (Cuore)," by Edmondo de Amicis. The latter is perhaps the best of all. The Italian school boy is made to relate his experiences in a simple, unaffected way, so as to inspire to a noble and helpful life. Although the setting is Italian, the story is "the touch of nature that makes the whole world kin." Its popularity has long since passed the bounds of Italy; it is now being widely read on this side of the ocean. A handsome edition of this famous story is issued in "The Young America Series," translated from the one hundred and sixty-sixth Italian edition, by Prof. G. Mantellini. Every teacher should read it. (Laird & Lee, Chicago.)

A translation of Louis Kuhne's "Facial Diagnosis," made by Aug. F. Reinhold, M. A., will excite much interest among physicians and others interested in the detection and cure of disease. It is held that this is much more satisfactory than the old method of diagnosis, because by that only present ailments can be told, while in facial diagnosis probable future sickness can be foreseen and foretold, and hence prevented. As all mental and physical phenomena are, sooner or later, reflected upon the face, and can there be most readily studied the method is called facial diagnosis; but in reality every detail of the whole organism is equally studied. It is, in fact, comparing the man or woman with the normal type to see if perfect health prevails. The book is illustrated by numerous cuts of faces. (Published by A. F. Reinhold, 60 Lexington avenue, New York. \$1.00.)

"The Prang Sewing Cards," by Kate McCrea Foster, furnish most excellent employment for pupils in kindergartens and primary schools. They are in twelve series, carefully graded, and the cards in each series are graded. The designs consist of simple lines, fancy borders, geometrical figures, stars, crosses, etc. (The Prang Educational Co., Boston, New York, and Chicago.)

"Ever New Busy Work" was devised recently by Miss Flora Kendall. It consists of figures printed on little squares of pasteboard, and is intended for number teaching in the second grade. Already it has stood the test of actual use in the school-room. As the figures are duplicated so many times one box gives an almost unlimited amount of busy work for the pupil, and as the signs are also all given, the combinations are in a very great variety. The experience of those teachers who are actually using it is, that a possibility of independent work by each child is a point very much appreciated by the child. (J. L. Hammett Co., 352 Washington street, Boston.)

The "Chart of the Music of Speech," by Francis Joseph Brown, president of the Delsarte college of oratory, Toronto, Canada, gives a complete system of voice culture, showing how to obtain a deep, rich, and melodious voice. It is based on the evolution of speech, physiologically and psychologically, and is designed for use in schools and colleges. (Delsarte college of oratory, Toronto, Canada.)

Under the title of "The Study and Practice of French in School" is issued a series of three books, by Louise C. Boname, graded to meet all the requirements of pupils learning that language, at least so far as the grammar and syntax is concerned. The third volume, which is now before us, is for advanced classes, and treats of irregular verbs, idioms, construction, and syntax. It purposes to meet the requirements for entrance examination at college; as in the first two books the plan is to use French in the class-room. Extracts from excellent French prose make the student familiar with the phraseology of the foreign tongue, and prepare him for French composition. (Louise C. Boname, 258 South Sixteenth street, Philadelphia.)

Boils, pimples and eruptions, scrofula, salt rheum, and all other manifestations of impure blood are cured by Hood's Sarsaparilla.

Literary Notes.

"A Transatlantic Chatelaine," by Helen Choate Prince, is a story of American and French life, a domestic drama it might be said, in which the heroism of a young American woman is brought out in high relief. Although the story is strictly moral in tone, it is not colorless and tame. It will be liked by those who prefer a deeply emotional story of the higher class. (Houghton, Mifflin & Co., New York.)

The Werner School Book Co. have issued "Training for Citizenship," by Dr. B. A. Hinsdale, of the University of Michigan. This book is the first of a series of pedagogical booklets, and is designed to show the teacher how to teach and the student how to study the interesting but perplexing subject of civics. Dr. Hinsdale is an authority on this subject and no teacher can fail to gain valuable points from his little book.

In their series of "Little Journeys to the Homes of Famous Women," G. P. Putnam's Sons have issued a delightful monograph on "Rosa Bonheur," by Elbert Hubbard. There is a good frontispiece of the famous artist. (G. P. Putnam's Sons, New York.)

A volume bearing the title of "Odd Folks," by Opie Read, contains about a score of short stories by that well known writer. In these various types that the author has observed in his travels about the United States are described with truthful and much humor. It may be said of these that they are not heavy; that they are, in fact, exceedingly entertaining and make the best kind of summer reading. Among the pieces is a bright comedy "The Moon in the Picture." (F. Tennyson Neely, New York.)

Among the volumes in Cassell's Union Square Library recently published are: "Ruth Farmer," by Agnes Marchbank; "An American Cavalier," by William C. Hudson (Barclay North); "A Free Lance in a Far Land," by Hubert Compton; and "His Letters," by Julian Gordon. The Cassell Publishing Co., 31 East 17th street, New York.

"Montresor," by Loota, is a well written love story of England and America, the heroine, an interesting young lady, giving the title to the novel. The narrative is

concise and direct, so that one never loses interest. The book is well bound with a colored cover design and a frontispiece portrait of Montresor. (F. Tennyson Neely, New York.)

This might be called the dictionary making age. We have general dictionaries, classical dictionaries, biographical and geographical dictionaries, various technical dictionaries, and now we have "A Pocket Dictionary of Dry Goods and Allied Trades," by Geo. W. and Daniel P. Bible. It will be very useful for merchants and salesmen as well as for those interested in textile manufacture. The printing is excellent and the binding flexible leather. (The Trade Publishing and Printing Co., New York.)

"The Confessions of an Opium Eater," by De Quincey has long been supposed to be a true picture of the experiences of a man enslaved to that habit, yet William Rosser Cobbe, who was also a victim to opium, declares it too alluring and that it has attracted thousands to destruction. In "Dr. Judas," he gives what might be called a new confession of an opium eater, and in which he paints the effects of the habit on mind and body in all its horrors. It will be of special interest to physicians as giving them hints for the treatment of this disease, if we may so call it, and will serve as a warning for those who are likely to fall into the habit. (S. C. Gregg & Co., Chicago. \$1.50.)

A. D. F. Randolph & Co., New York, have issued some little volumes neatly bound in cloth. Two these are "No Place for Re-

pentance," by Ellen F. Pinsent, and an English story "Simon Ryan and Peterite," by the Rev. Augustus Jessopp, D. D. A third volume corresponding with these in style and size is "Songs After Work," by Louis J. Magee. The author has embodied much true and beautiful sentiment in smooth, melodious verse.

"Blind Leaders of the Blind," by James R. Cocke, M. D., author of "Hypnotism," is the unique title of a unique book by James R. Cocke, M. D. The author of the book is deprived of sight, and possibly the character of the blind lawyer may, in part, be drawn from some of his own experiences. The book is at once a satirical and occult romance. (Lee & Shepard, Boston.)

Andre Castaigne, the French-American artist, has drawn "A Panorama of the Hudson" for the Midsummer Holiday (August) issue of "The Century," which is a "travel number." Mr. Castaigne's series of illustrations begins with the Bartholdi statue, and includes the harbor of New York, General Grant's tomb, the Palisades, and the Highlands, and ends with a distant and picturesque view of the capitol at Albany. The pictures accompany an article by Clarence Cook on "The Lordly Hudson."

"McClure's Magazine" for September will contain a thoroughly practical and useful article on "Life in the Klondike Gold Fields." It embodies the personal observations of a pioneer who has lately come out, bringing a fair fortune with him, and it tells how the miners enter and work their claims, how they live, how they govern

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themselves, what kind of men they are, and how they pass their leisure time. It tells also what is the best way to the Klondike, what the best equipment for the journey and a year's residence there, and what promise of prosperity the country actually offers. The article will be fully illustrated from recent photographs.

Under the title of "Freshman Composition," Mr. Henry G. Pearson, of the Massachusetts Institute of Technology, has set forth the method of teaching English so successfully pursued in that institution. The book is prepared primarily as a guide for students' use in the class-room. Its unique feature is that it begins with the study of the whole composition—which is the natural place to begin, then treats of the paragraph, the sentence, and last of all, of words, thus completely reversing the order of Mr. Barrett Wendell's excellent book. Prof. Arlo Bates has written an introduction, and D. C. Heath & Co. are the publishers. The book will appear about September 1.

The Klondike gold strike imparts a peculiar value to the vivid picture of bonanza days on the Comstock, presented in Mr. C. H. Shinn's fascinating book "The Story of the Mine," which is published by D. Appleton & Company, who also publish Miss Scidmore's "Guide-Book to Alaska."

Miss Susan E. Blow, whose recent article in "The Outlook" on the "Kindergarten in the United States," has attracted very wide attention, contributes to the Educational number of "The Outlook" (August) a paper on "The Kindergarten Ideal," which cannot fail to interest all educators, as it touches many points of great importance in child education.

Interesting Notes.

Soda-Water.

The peculiarity about soda-water is that it contains no soda. The two most important component parts are marble dust, called in this connection by the more elegant name of snowflake, and sulphuric acid. Neither of these ingredients is healthful by itself, nor are they in combination, until submitted to a pressure of 150 pounds to the square inch.

For this pressure a generator is constructed of gun-metal iron tested to a pressure of 500 pounds to the square inch. The marble dust is placed in this and then the acid is brought in from another chamber. The resulting gas is passed into steel soda fountains lined with block tin and filled two-thirds full of the water to be charged. These fountains are placed under the counters in drug stores, and the escape of the carbon dioxide—which is the name of the gas—is what causes the bubbling in the glass of so-called soda-water.

The marble dust is prepared by pulverizing waste bits of the stone, and it is said that the chips of the marble cathedral on Fifth avenue, New York city, supplied twenty-five million gallons of soda-water.

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An Interesting Exhibit at the N. E. A.

Among the fine exhibits at the National Educational Association, at Milwaukee, was that of the Densmore typewriter. Judging from the literature distributed, their effort was chiefly directed to increasing the interest in the typewriter as an aid to the teaching of English in the regular grades of the school. It is believed by authorities like Professor Watt, of the Graham public school, Chicago, that the typewriter is one of the very best devices for aiding in teaching English, as he has demonstrated by various grades in his school, editing and publishing school newspapers, using the typewriter as the printing press. The Densmore was the official typewriter of the N. E. A. Interest was attached to the exhibit by the presence of Mr. Julius Weber, one of the fastest typewriter operators in the United States, who gave an exhibition Thursday evening at the Spencerian college. He uses no letters upon his keyboard, and depends upon finding his keys as a pianist finds the keys of his instrument. He can write with almost equal facility if blindfolded. He writes memorized matter at the rate of something like 200 words per minute and dictated matter correspondingly fast. At this exposition, by a coincidence, Mr. Isaac Dement, the fastest stenographer, was present, and introduced Mr. Weber, who prefers the Densmore because of its quick action and light touch.

No better means could be adopted to make the children feel the worth of the heritage of a free country than a familiar acquaintance with the struggles of those brave men who helped to secure its independence. But the youth can scarcely be made to feel an adequate personal interest in the actors in that great revolution by reading the ordinary school history. Ethan Allen, a descendant of a famous revolutionary family and a pure patriot has supplied this personal interest in his drama "Washington, or the Revolution: A Drama." This is of course too long for stage representation, as it fills two paper covered volumes of over two hundred pages each, nor is it intended for that purpose. Its object is to make the reader familiar with the struggle and the thoughts and feelings of its leaders. The persons, American, French, British, and German,

who took part in the war are characters in this grand drama covering twenty years. The pages are enlivened by numerous illustrations. This drama should be placed in the hands of every American schoolboy. F. Tennyson Neely, New York and Chicago. (50 cents per volume.)

What Diamonds are Worth.

Diamonds weighing one-half carat each, are worth on an average \$60; those weighing three-quarters of a carat, \$80; one carat, \$100; one and one-quarter carats, \$110; one and a half carats, \$120; one and three-quarter carats, \$145; two carats, \$175. Four diamonds weighing together two carats are worth \$120, while one diamond weighing two carats is worth \$350. Stones weighing more than two carats are worth little more than those of two carats, simply because the demand for the larger stones is so small.

The largest diamond known is probably the one found in Golconda in 1550, which is said to have weighed in its original state 900 carats. Among the crown jewels of Russia is a diamond purchased by Catherine of Russia for about \$450,000 and an annuity of \$20,000. It is as large as a pigeon's egg and weighs 194 carats. The celebrated Koh-i-noor, which means "mountain of light," weighed originally 186½ carats but it has been recut and reduced to 103½ carats and it is greatly improved in appearance as a result.

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Among the traditions that are fast fading away is the old orthodox slope in writing. While venerable it is entirely arbitrary; for the more nearly vertical the more legible the writing is. Esterbrook's "Vertical Writers" make such clear, distinct outlines that those who use them say that they are just the pens needed for the purpose.

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